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Garton

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(54) **DISCHARGE OUTLET FOR DOUBLE WALL
CONTAINMENT TANK ASSEMBLY**

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220/4.12, 567.3, 661**

(56) **References Cited**

U.S. PATENT DOCUMENTS

665,349	1/1901	Sewall .
963,454	7/1910	Meinecke .
1,330,868	2/1920	Harrison .
1,520,230	12/1924	Flath .
1,544,024	6/1925	Moeller et al. .
1,551,007	8/1925	Bruns .
1,970,940	8/1934	Laube .
1,983,118	12/1934	Bourque .
2,043,045	6/1936	Krinard .
2,185,026 *	12/1939	Goecke 220/565
2,637,459	5/1953	Jordan .
2,777,295	1/1957	Bliss et al. .
3,111,074 *	11/1963	Kennard, Jr. et al. 220/565 X
3,125,388	3/1964	Costantini et al. .
3,304,852	2/1967	Lande .
3,338,010	8/1967	Waugh .
3,352,443	11/1967	Sattelberg et al. .
3,383,004	5/1968	Closner .
3,473,689	10/1969	Hutter .
3,760,972	9/1973	McKirnan..
3,930,590	1/1976	Ebbrell .
4,425,743	1/1984	Bartur .
4,513,550	4/1985	Kotcharian .
4,519,415	5/1985	Carn .
4,533,062	8/1985	Krautkramer .
4,584,802	4/1986	Casselman et al. .

4,651,894	3/1987	Ebert .
4,697,618	10/1987	Youtt et al. .
4,714,170	12/1987	Scott .
4,840,283	6/1989	Lillywhite et al. .
4,871,081	10/1989	Ershig .
4,934,553	6/1990	McCarthy .
4,960,222	10/1990	Fields, III .
4,976,912	12/1990	Madle et al. .
5,033,638	7/1991	Cruver et al. .
5,056,680 *	10/1991	Sharp 220/565 X
5,060,815	10/1991	Wendling et al. .
5,117,810 *	6/1992	Threatt 220/567.3 X
5,161,690	11/1992	Foshaug .
5,165,569	11/1992	Furuhashi et al. .
5,201,432	4/1993	Elvin-Jensen .
5,201,435	4/1993	Harding et al. .
5,285,922	2/1994	Harding .
5,287,986	2/1994	Frost .
5,333,752	8/1994	Harding, Jr. .
5,374,026	12/1994	Spurrier et al. .
5,430,927	7/1995	Rogers .
5,490,603	2/1996	Davis .
5,495,695 *	3/1996	Elliott, Jr. 220/565 X
5,544,777	8/1996	Watson .
5,544,974 *	8/1996	Berg et al. 220/4.12 X

* cited by examiner

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(57) **ABSTRACT**

A discharge outlet is provided for attachment to a double wall containment tank assembly having an inner tank and an outer containment vessel. The discharge outlet includes a conduit fluidically connected to the fluid receiving chamber of the inner tank and extending exteriorly of the outer containment vessel, a flexible annular sealing member positioned between the inner tank and the outer containment vessel, and couplers for attaching the sealing member to the inner tank and the outer vessel in surrounding relationship to the conduit. The containment area between the two tanks which is designed for containing spills from the inner tank is thereby fluidically isolated from the access opening through which the conduit passes.

24 Claims, 3 Drawing Sheets

